



Memorandum

TO: COMMUNITY & ECONOMIC
DEVELOPMENT COMMITTEE

FROM: Chris Burton

SUBJECT: PROSPECT SV PROGRESS REPORT

DATE: June 10, 2019

Approved

Date

RECOMMENDATION

Accept the staff report providing an update on Prospect Silicon Valley (ProspectSV) as it supports the City's goals of enhancing economic development, improving transport mobility, and delivering on Climate Smart.

BACKGROUND

ProspectSV is a nonprofit clean tech innovation hub located at the City's Environmental Innovation Center at 1608 Las Plumas Avenue San Jose. ProspectSV's mission is to accelerate the adoption of clean tech innovations for sustainable, smarter communities thereby addressing critical economic and environmental objectives.

Clean tech is defined by Prospect SV as any process, product, or service that reduces negative environmental impacts through significant energy efficiency improvements, the sustainable use of resources, or environmental protection activities. Clean tech is often interchanged with "greentech," or "green technology" with the emphasis on creating new products and services capable of long term sustainability.

Established in 2012 in conjunction with the development of the City's Environmental Innovation Center and operational since 2014, Prospect SV was established as a 501(c)3 non-profit public benefit corporation by the City of San Jose and is designed to provide critical infrastructure and affordable space for clean technology companies seeking technology demonstration and prototype opportunities.

ProspectSV was created to build upon the City's existing Economic Development Strategy, Green Vision (the City's sustainability policy platform on sustainability that pre-dated Climate Smart), and the pioneering Demonstration Partnership Policy adopted by the City Council in

2008, by focusing on clean tech job creation and providing a working place for environmental programming.

The organization's founding principles were to be:

- An organization which rapidly engages emerging technology companies at a critical time when their prototype approaches the market, and assists with valuable support proven to improve their success of broad scale commercialization; and
- That the technology demonstration center would become a central hub and valuable physical working space for technology companies, and a reflection of innovative technology supporting the City's Climate Smart program.

At the core of ProspectSV's value proposition is 23,000 sq. ft. of flexible space for innovators to demonstrate, develop, and deploy emerging clean technologies in the fields of renewable energy, energy efficiency, green building, and transportation. This space includes a technology demonstration center with office, conference, and industrial space, and an Intelligent Traffic Systems lab and a driving simulation lab.

The design and use of the physical location, alongside the attraction of specialist resources and industry expertise, has been at the heart of how the organization created and implemented its offer. ProspectSV's value proposition for both entrepreneurs and partners has focused on the following activities and programs:

- Creating networks of subject matter experts to broaden and share knowledge.
- Researching new areas of technology.
- Providing advice and direction on product and market strategies and the development of new business models to facilitate market adoption of sustainable solutions.
- Facilitating new public private demonstration projects and collaborations across the Bay Area and beyond.
- Targeted engagement across the business ecosystem to attract startups.
- Utilizing the Alpha test beds to design and prototype new concepts and products.

This report sets out how ProspectSV has defined and implemented its offering by supporting the establishment and growth of new businesses but also through the formation of collaborative public private partnerships not only within San Jose, but across the wider Bay Area region.

ANALYSIS

A core output of the value proposition is how the ecosystem has attracted individuals to commercialize new concepts and designs. Over the past five years, ProspectSV has developed an increasingly pivotal role in supporting 15 demonstration projects, including the coordination of efforts to raise more than \$80 million in government grant funding to underwrite the costs for

project development and deployment. Examples of demonstration projects are highlighted later in the report. ProspectSV's ability to convene a multi-disciplinary team to develop compelling proposals is highly valued by their ecosystem partners.

Delivering on this mission has required the current leadership to expand the ecosystem with new corporate sponsors, partners, and stakeholders. By generating these new corporate relationships across both the private and public sectors, ProspectSV has in turn served to attract a dedicated and growing audience of professionals and academics whose input in turn influences new programs and project activity, as well as new start-ups with emerging technologies. This is in effect an evolving ecosystem of individual experts and organizations that will continue to grow.

The development of a dual footprint across San Jose and the Bay Area region has been important to identifying new project opportunities, securing external revenue sources, and managing operational risk. These projects have been the internal management drivers designed to maximize impact and returns for both the public and private sectors.

To date ProspectSV has supported the commercialization of close to 40 new business startups that in turn have attracted over \$210m of investment, creating hundreds of new jobs.

Value Proposition

ProspectSV's strategy has focused on supporting the emergence of two key interconnected and emerging industries:

- The electrification (EV) of transportation & development of new modes of mobility, and
- Commercial buildings & structures that can radically lower net energy use.

In focusing on these important areas, ProspectSV's value proposition has been built upon four primary elements that support clean technology companies seeking to advance their concepts and/or companies. These are:

1. Lab Facilities

The Lab facilities are described below under two sections known as the ITS Lab and the Driving Simulation Lab.

ITS Lab

The Intelligent Traffic Systems Lab (ITS Lab) at ProspectSV is an Alpha testbed for advanced transportation and traffic technologies in a safe environment. The ITS Lab enables hardware and software implementations of the many emerging Connected Vehicle applications, both for end user benefit and for traffic flow management. The ITS Lab was built for technology development, refinement, and field trials in a safe, realistic environment in partnership with the leading technology companies in this space.

SimLab

The SimLab is integrated in the Prospect SV Demonstration Center and is operated by fka SV, a subsidiary of the German company fka and Aachen University. The SimLab is a National Highway Traffic Safety Administration guidelines compliant driving simulator with a real car and 220-degree multi-screen surround view, the simulator creates an immersive virtual environment for the driver. The fka SV SimLab offers a multitude of services from driving simulator time, up to full experiments for startups, OEMs, automotive suppliers, as well as other automotive interested companies.

2. Example Demonstration Projects

Advanced Transit Bus VGI with the VTA

This is the first electric transit bus vehicle project-to-grid integration project in the country. The project is designed to test an advanced energy management system for up to 35 buses with the aim of demonstrating how to scale the system up on a statewide basis. The value of the grant is \$1.9m and runs to April 2021.

Whole Foods ZNE Building Retrofit

Prospect SV is leading the project valued at \$3.7m which is converting a Noe Valley grocery store to a near zero net energy building. The project actively investigates emerging technologies and addresses engineering challenges for retrofitting small scale commercial spaces.

Realize: ZNE Multifamily Project

Prospect SV is leading a \$7.2m project aimed at providing a proving ground for readily installed and affordable ZNE Retrofit packages across California.

CalOps ACE (California Opportunity for Acceleration of Clean Energy)

Cal-Op ACE is a \$5.2M state-wide program geared towards bridging the gap between California clean energy companies and institutional and commercial customers that rely on formal procurement processes to purchase clean distributed energy resource (DER) solutions and packages. ProspectSV is leading this effort.

Mobility on Demand Project

ProspectSV is working with the City of Palo Alto on a DOT project to develop a Commuter Wallet application in support of employers' efforts to reduce the number of single occupancy vehicles entering the city on a daily basis. The app will offer inter-modal trip planning, a single payment mechanism and integration with employer HR systems to enable employees using the app to accrue benefits.

3. Start Up Services

The Center provides a suite of support capabilities for startups. At the heart of the Center's operations is the support provided to startup companies either as tenants or through access to the services and use of facilities. ProspectSV is currently supporting 17 start-ups with key technologies for hands-free Electric Vehicle charging, energy management for EV charging infrastructure, software for ride sharing and inter-modal transportation trip planning, and software-based traffic management solutions.

4. ACES (Automated Connected Electric & Shared) Bay Network Working Group

Prospect SV in partnership with the Silicon Valley Leadership Group recognized the strategic significance of the emerging market place for advanced mobility solutions and agreed to establish a Bay Area Network working group and co-design an industry-led program.

The Network's mission is to foster the growth of ACES technologies and services to address the transportation challenges facing the Bay Area. The focus is on the following initiatives:

- Educating public agencies about technology and educating technologists about the public sector challenges;
- Researching and understanding how best to integrate ACES solutions in the Bay Area, including identifying barriers to region-wide deployment;
- Facilitating the development of use cases for ACES solutions (e.g. using AVs to transport elderly and disabled passengers in a limited geography), creating opportunities for cross-sector collaboration and government funding of those efforts.

The expectation is that the Network will encourage ACES deployments that prioritize societal benefits such as safety, congestion reduction, air quality improvements, social equity, reliability, improved mobility, and facilitated access to the public transportation infrastructure.

Prospect SV kicked off the network in June 2018 with a group of about 20 individuals from the public, private, and non-profit sectors, including San Jose Mayor Liccardo and the Executive Director of the Metropolitan Transportation Commission. The initial effort was to define the mission and scope of the Network.

Prospect SV and the Leadership Group actively collaborating to define the role of and recruit members for an Advisory Council. This committee will help to define the priorities of the Network and launch specific efforts to address priority topics. Future activities of the Network are currently being planned.

Collaboration with the City of San Jose

ProspectSV has engaged with the City of San Jose on a number of initiatives in support of the Climate Smart program, including programs within the Department of Transportation that are intended to relieve traffic congestion and lower greenhouse gas emissions. The VTA has been a partner in many of these efforts and continues to play a critical role in the identification, qualification and validation of advanced mobility technologies and services.

Transportation Innovation Zone ProspectSV worked with the City's DOT to help define and create a Transportation Innovation Zone to facilitate the testing of emerging technologies that can materially impact safety, traffic flow and emissions. Several technologies have been tested, including a software application that can provide Traffic Signal Prioritization for emergency and transit vehicles.

Autonomous Vehicle Pilot ProspectSV supported the Mayor's Innovation office and the DOT in the development of the AV pilot program. By helping to convene the initial stakeholder meetings, the City was able to engage with public and private sector partners who could contribute to an AV trial which will roll out in September 2019. ProspectSV also provided support in the development of the RFI and in the evaluation of the proposals that were received.

Dashboard for Climate Smart Program ProspectSV supported the Climate Smart team by engaging Microsoft to assist in the development of a dashboard that would enable the city to track their performance against the Climate Smart plan.

Business Model

The key sources of revenue generation required to sustain the organization are:

- Corporate sponsorships,
- Government grants,
- Client fees from tenant services.

The ability to secure corporate sponsorships and government grants drives ProspectSV's business development function. Both activities are significant generators of income and expenditure. Each corporate sponsorship will have a highly customized program of costed activities and deliverables.

Federal grant income is used to deliver fully costed project work often relying on commissioning work with external organizations.

Fees generated from client and tenant services are sourced from individuals and new businesses who sign up for a minimum of six-month – often renewable with a range of services. In effect, what Prospect SV offers the new business is space and facilities at below economic cost, along with business advisory support to incubate and accelerate the testing and commercialization of the concept.

Finances

ProspectSV is financially stable securing close to \$1.5m of annualized income. The City of San Jose plays a critical role in providing a below market sublease valued at \$271,192 in the year ending June 2018. ProspectSV now makes a monthly contribution of over \$8,000 towards the building maintenance and operations.

Every \$1 of city support in turn anchors over \$5 of other sources of income. The interconnection of public and private funding sources minimizes operating risk and in turn secures the viability of activity and projects.

ProspectSV does not carry substantial cash surpluses. All revenues are invested in sustaining the infrastructure and in-house management expertise.

The most recent year ended June 2018 demonstrated robust year-on-year growth in sponsorship and grants equivalent to 63% of total revenues in the fiscal year. This is a direct reflection of the deepening partnerships and collaborative relationships developed by the current leadership within ProspectSV.

ProspectSV has a five-year sublease which ran to the end of June 2019 and a three-year extension as set out in the sublease has been agreed to the end of June 2022.

Forward Strategy

ProspectSV will continue to implement the strategy and programs that are currently in place through the following activities:

- Build ProspectSV's reputation as the trusted partner of cities and public agencies in emerging clean technology.
- Expand the ACES Bay Area Network capability and partnerships in both San Jose and across the region.
- Broaden the range of corporate sponsorships and design new models of collaboration and service innovation.
- Build on the projects currently underway with VTA to extend the scope and secure additional grant funding to support their deployments.
- Continue to recruit clean tech start-ups with solutions in the areas of advanced mobility, energy, and the built environment.
- Expand the scope of collaboration with International partners, such as the European Institute for Technology's Climate-KIC and Digital teams, and the Mistletoe Foundation in Asia.
- Identify new concepts in clean tech that can address other important areas of focus for San Jose and the region in water conservation and waste treatment.

ProspectSV intends to leverage all the acquired expertise for the benefit of the City of San Jose.

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CONCLUSION

The City's partnership with ProspectSV continues through collaboration on economic development initiatives, and by providing accountability and financial oversight through participation in the Board of Non-Executive Directors that regularly meets on a quarterly basis. Oversight by the City of San Jose is secured by representation on the Board of Directors.

EVALUATION AND FOLLOW-UP

The Office of Economic Development staff will continue to work directly with ProspectSV to support the strategy of broadening the range of projects in San Jose and the Bay Area.

/s/

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For questions, please contact Victor Farlie, Business Development Officer at (408) 535-8230.